CHAPTER 5

WATER QUALITY PARTNERSHIPS IN THE NONCONNAH CREEK WATERSHED

5.1 BACKGROUND. The Watershed Approach relies on participation at the federal, state, local and nongovernmental levels to be successful. Two types of partnerships are critical to ensure success:

- Partnerships between agencies
- Partnerships between agencies and landowners

This chapter describes both types of partnerships in the Nonconnah Creek Watershed. The information presented is provided by the agencies and organizations described.

5.2 FEDERAL PARTNERSHIPS.

5.2.A. Natural Resources Conservation Service. The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides technical assistance, information, and advice to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance & Results Measurement System (PRMS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRMS may be viewed at http://sugarberry.itc.nrcs.usda.gov/netdynamics/deeds/index.html. From the PRMS Products Menu, select "Products," then select "Conservation Treatments." Select the desired program and parameters and choose "Generate Report."

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

CONSERVATION PRACTICE	ACRES
Conservation Buffer	0
Erosion Control	0
Irrigation Management	0
Nutrient Management Applied	0
Pest Management	0
Prescribed Grazing	0
Salinity and Alkalinity Control	0
Tree and Shrub Practices	0
Tillage and Residue Management	0
Wildlife Habitat Management	0
Wetlands Created, Restored, and Enhanced	0
Total	**0**

Table A5-1. Landowner Conservation Practices in Partnership with NRCS in Tennessee Portion of Nonconnah Creek Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period.*

5.2.B. United States Geological Survey Water Resource Programs—Tennessee District.

The U.S. Geological Survey (USGS) provides relevant, objective scientific studies and information to evaluate the quantity, quality, and use of the Nation's natural resources. In addition to national assessments, the USGS also conducts hydrologic investigations in cooperation with numerous federal, state, and local agencies to address issues of local, regional, and national concern.

The USGS collects hydrologic data to document current conditions and provide a basis for understanding hydrologic systems and solving hydrologic problems. In Tennessee, the USGS records streamflow continuously at more than 60 gaging stations equipped with recorders and makes instantaneous measurements of streamflow at many other stations. Groundwater levels are monitored statewide, and the physical, chemical and biological characteristics of surface and ground waters are analyzed. USGS activities also include the annual compilation of water-use records and collection of data for national baseline and water-quality networks. National programs conducted by the USGS include the National Atmospheric Deposition Program, National Stream Quality Accounting Network, and the National Water-Quality Assessment Program.

Continuous Streamflow Information—Nonconnah Creek Basin

- 07032200 Nonconnah Creek near Germantown, TN

For streamflow data, contact Donna Flohr at (615) 837-4730.

More information on the activities of the USGS can be obtained by accessing the Tennessee District home page on the World Wide Web at http://tenn.er.usgs.gov/

5.2.C. United States Army Corps of Engineers - Memphis District. Memphis is one of six Districts in the Mississippi Valley Division of the Corps of Engineers. The District's area of responsibility encompasses 25,000 square miles, portions of six states, 15 major drainage basins and approximately 3 million citizens. Responsibilities also include maintaining a 355-mile-long, 9-feet-deep by 300-feet-wide Mississippi River channel from Cairo, Illinois to the mouth of the White River in Arkansas.

The majority of the District's missions center around the Mississippi River and Tributaries Project with three primary mission areas - flood control, navigation, and environmental stewardship. The District also has regulatory authority, within its geographical boundaries, over activities involving discharge of dredged or fill material in waters of the U.S. under Section 404 of the Clean Water Act, and any activity affecting the course, condition, or capacity of navigable waters under Section 10 of the Rivers and Harbors Act.

Area Project with an Influence on Water Quality

One of the District's projects located in west Tennessee inadvertently plays a role in preserving water quality in a majority urban surrounding. The Nonconnah Creek project has a three-fold purpose: flood control, environmental enhancement, and recreation enhancement. Proposed flood control features will provide a 100-year level of protection for a highly urbanized area in Memphis, Tennessee. Part of the flood control work includes providing bank protection along critical bend ways and at bridge crossings to prevent historical channel bottom and bank erosion from polluting the stream's waters with turbidity and sediment build-ups. Some of the protective works at bridges dually perform as a low-level weir, causing a pooling effect upstream of the bridge crossings. A stabilization weir has also been constructed at the confluence of the mouth of Nonconnah Creek with McKellar Lake. The weir reduces the amount of sediment load transfer into McKellar Lake and protects the Nonconnah Creek channel banks from further erosion upstream endangering a major road and railroad crossing. Reducing the sediment load decreases the amount of annual dredging needed at the confluence with McKellar Lake by 40 percent or more.

Environmental enhancement features of the Nonconnah Creek Project include acquisition of a 33-acre wetlands area, which will naturally be converted into an outdoor classroom for area students and residents. The area will consist of a nature trail and foot bridges to allow easier access and visibility to one of the last and largest wooded stances along the creek.

Recreational features of the project include acquisition of over bank lands (by the project sponsor) adjacent to the creek for placement of bike/hike trails. Purchasing the lands will preclude future development immediately adjacent to the creek and the resulting effect of increased runoff and associated impairments to water quality.

Cooperation with the Tennessee Department of Environment and Conservation, Division of Water Pollution Control

Before a project is constructed in west Tennessee, an Environmental Assessment (EA) is conducted in the planning phase and/or in the pre-construction phase depending on

the length of time since the project was authorized for construction. The EA is reviewed by TDEC and any comments or concerns are addressed by the District in a timely manner. It has also become common practice to engage TDEC in an on-site reconnaissance of the proposed project site to address ways to safeguard water quality while constructing project features.

Environmental Education

The Memphis District is very active in environmental educational opportunities provided to local residents and students. District environmental personnel unite with the Ducks Unlimited organization and similar groups by participating in the "Great Outdoors Festival" held annually at the Agri-Center in Memphis. District personnel also attend local school career days and conduct presentations at local colleges to educate young people about the District's environmental stewardship projects proposed in the Memphis Metropolitan area and on-going projects in eastern Arkansas. The District is dedicated to providing solutions to the challenges facing the area's groundwater supply and surface water quality.

To obtain additional information about the District, please refer to the home page at: www.mvm.usace.army.mil.

5.3 STATE PARTNERSHIPS.

5.3.A. TDEC Division of Water Supply. Congress, the Environmental Protection Agency, and the states are increasing their emphasis on the prevention of pollution, particularly in the protection of the raw water sources for public water systems. The initial step toward prevention of contamination of public water supplies came with the Federal Safe Drinking Water Act Amendments of 1986. At that time, each state was required to develop a wellhead protection program to protect the water source of public water systems relying on groundwater (wells or springs). The new Source Water Assessment provisions of the Federal Safe Drinking Water Act of 1996 Amendments expanded the scope of protection beyond groundwater systems to include protection of the waters supplying surface water systems.

More information may be found at: www.state.tn.us/environment/dws

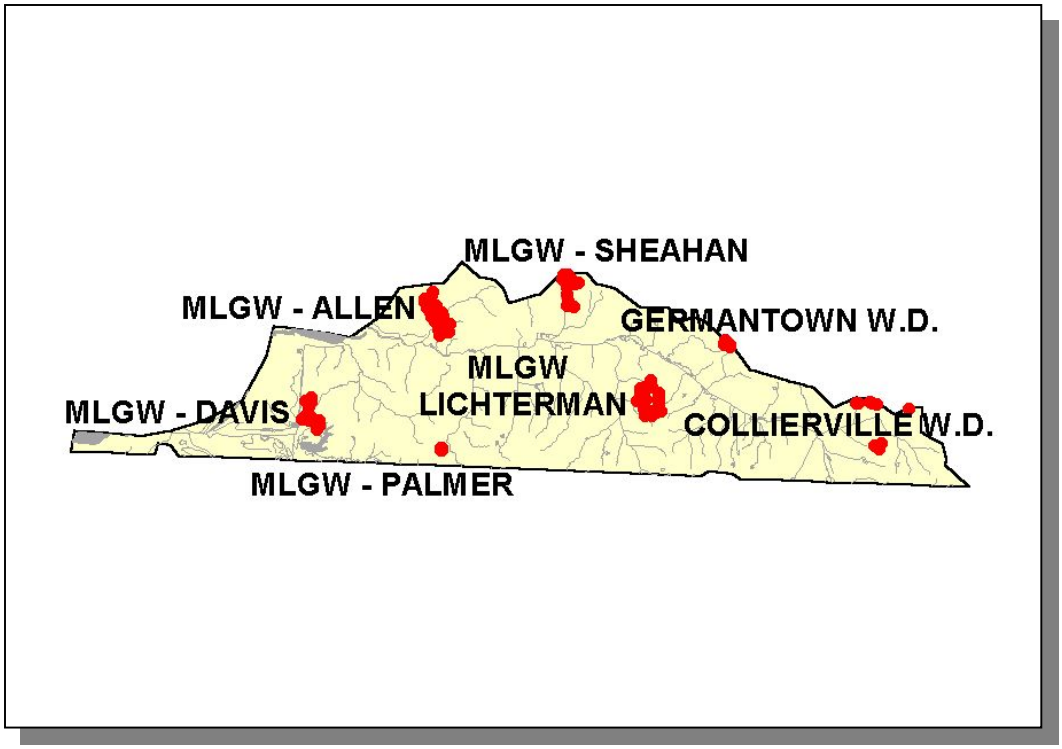

Figure A5-1. Location of Communities Using Groundwater for Water Supply in Nonconnah Creek Watershed.

A "wellhead" is the source area for the water, which is withdrawn through a well or spring, similar to the concept of the head of a river. To protect the water supply, it is important to know from where the water flowing to that well or spring is coming. Source water/wellhead protection areas for public water systems using groundwater are generally based on hydrologic considerations and/or modeling. Source water protection areas for public water systems using surface water are based on the portion of the watershed area upstream of the water intake.

There are three basic steps involved in a wellhead protection program: 1) defining the wellhead protection area, 2) inventorying the potential contaminant sources within that area, and 3) developing a wellhead protection plan. The official designation of wellhead protection areas provides valuable input and emphasis to government agencies in the siting of facilities and the prioritization and cleanup of contaminated sites.

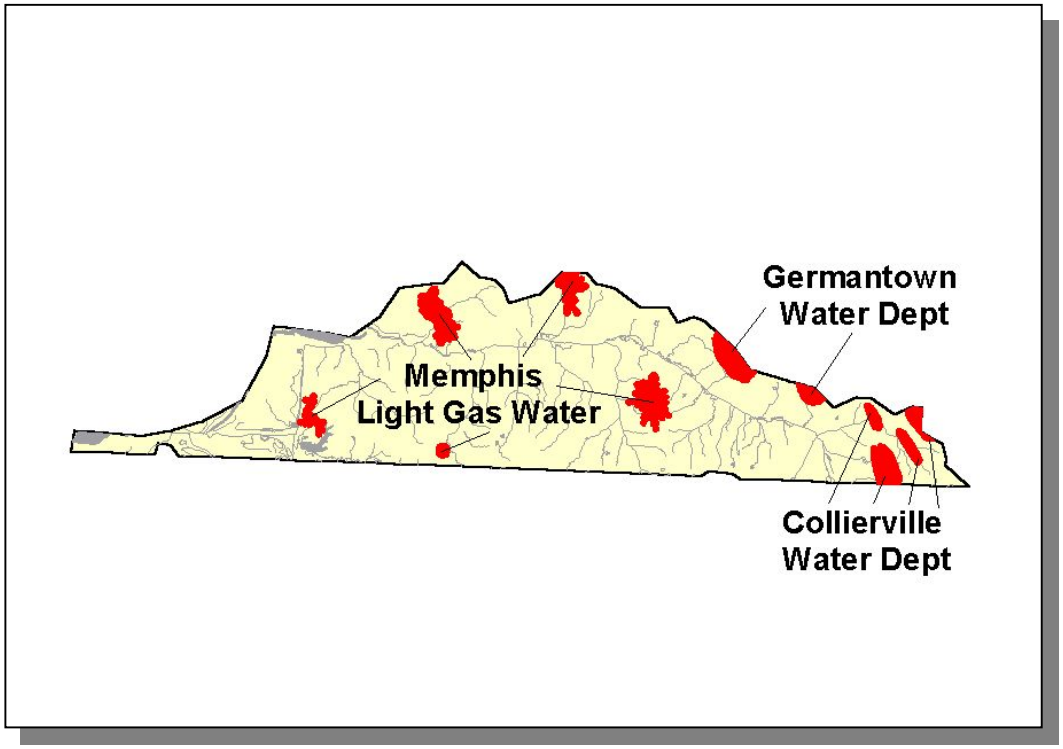

Figure A5-2. Communities in the Wellhead Protection Program in Nonconnah Creek Watershed.

5.3.B. Tennessee Department of Agriculture. The Tennessee Department of Agriculture's Water Resources Section consists of the federal Section 319 Nonpoint Source Program and the Agricultural Resources Conservation Fund Program. Both of these are grant programs which award funds to various agencies, non-profit organizations, and universities that undertake projects to improve the quality of Tennessee's waters and/or educate citizens about the many problems and solutions to water pollution. Both programs fund projects associated with what is commonly known as "nonpoint source pollution."

The Tennessee Department of Agriculture's Nonpoint Source Program (TDA-NPS) has the responsibility for management of the federal Nonpoint Source Program, funded by the US Environmental Protection Agency through the authority of Section 319 of the Clean Water Act. This program was created in 1987 as part of the reauthorization of the Clean Water Act, and it established funding for states, territories and Indian tribes to address NPS pollution. Nonpoint source funding is used for installing Best Management Practices (BMPs) to stop known sources of NPS pollution, training, education, demonstrations and water quality monitoring. The TDA-NPS Program is a non-regulatory program, promoting voluntary, incentive-based solutions to NPS problems. The TDA-NPS Program basically funds three types of programs:

- BMP Implementation Projects. These projects aid in the improvement of an impaired waterbody, or prevent a non-impaired water from becoming listed on the 303(d) List.

- Monitoring Projects. Up to 20% of the available grant funds are used to assist the water quality monitoring efforts in Tennessee streams, both in the state's 5-year watershed monitoring program, and also in performing before-and-after BMP installation, so that water quality improvements can be verified.

- Educational Projects. The intent of educational projects funded through TDA-NPS is to raise the awareness of landowners and other citizens about practical actions that can be taken to eliminate nonpoint sources of pollution to the waters of Tennessee.

The Tennessee Department of Agriculture Agricultural Resources Conservation Fund Program (TDA-ARCF) provides cost-share assistance to landowners across Tennessee to install BMPs that eliminate agricultural nonpoint source pollution. This assistance is provided through Soil Conservation Districts, Resource Conservation and Development Districts, Watershed Districts, universities, and other groups. Additionally, a portion of the TDA-ARCF is used to implement information and education projects statewide, with the focus on landowners, producers, and managers of Tennessee farms and forests.

Participating contractors in the program are encouraged to develop a watershed emphasis for their individual areas of responsibility, focusing on waters listed on the Tennessee 303(d) List as being impaired by agriculture. Current guidelines for the TDA-ARCF are available. Landowners can receive up to 75% of the cost of the BMP as a reimbursement.

The Tennessee Department of Agriculture has spent $6,384 for Agriculture BMPs in the Nonconnah Creek Watershed since 1998. Additional information is provided in Nonconnah-Appendix V.

Since January of 1999, the Department of Agriculture and the Department of Environment and Conservation have had a Memorandum of Agreement whereby complaints received by TDEC concerning agriculture or silviculture projects would be forwarded to TDA for investigation and possible correction. Should TDA be unable to obtain correction, they would assist TDEC in the enforcement against the violator.